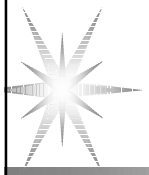
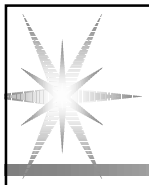
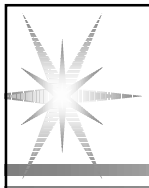


Ten Reasons

Jon “maddog” Hall
Executive Director
Linux International

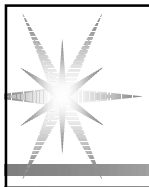


Trademarks



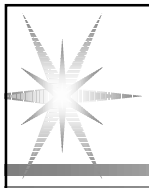
Agenda

- What is Linux?
- Why use Linux?
- Major Objections to Using Linux
- Financials
- Summary
- Q&A



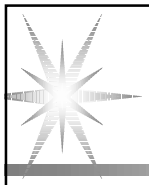
What Is Linux?

- Multi-user, Multi-tasking
- Demand Paged Virtual Memory
- 32/64 bit
- Fully network aware (TCP/IP, NFS, Web)
- File and Printer Serving/Coexistence
- Many utilities, languages
- Resource Stingy



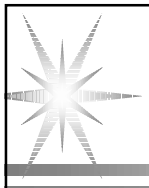
What is Linux? (Cont.)

- Freely Distributable
  - Both object and source
- Runs on Intel, Alpha, Sparc, Motorola, PowerPC, (Strong)ARM, MIPS, others
- Wide range of peripheral support
- Widely Configurable
  - Embeddable to SuperComputer



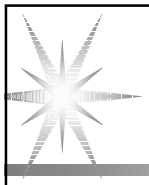
Why Use Linux?

- Low Cost solution to high power operating system
- Freely distributable sources allow rapid development of the system
- It is efficient
- It allows you to have control



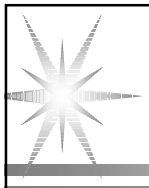
Major Objections: I can't use it.

- Lack of Applications
  - Does not run Office 95, 96, 97
- Too Complicated
  - Too Hard to Learn
  - Too Hard to Use
- Doesn't support Backoffice (SQL Server or Exchange)
- No Decent Middleware (DBMS, Objects)



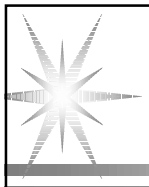
No Applications

- Which Applications for Which Markets?
- Which Compatibility is needed?
  - Data Transfer
  - Human Training



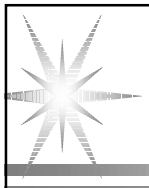
Current Markets

- Education
- Desktop usage
- Software Development
- Vertical Applications



Education

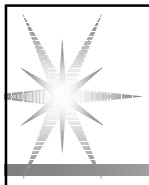
- Useful for teaching Computer Science
  - Monolithic and Micro-kernel examples
  - All source code included
  - No licensing hassles
  - No “contamination issues”
- Can be used from grade school to graduate school
- Lots of low or no cost software, most source



Stone Soupercomputer

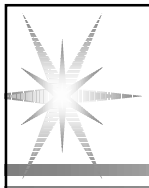
- A supercomputer for the average classroom
  - Uses Linux Operating System
  - Uses donated hardware

"We start to win when you login....."



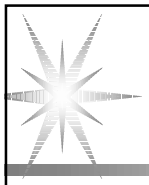
Desktop Usage

- Office packages available
  - Star Office
  - Applixware
  - Corel (WordPerfect and their office suite)
- Wabi (Caldera) - Windows 16-bit apps
- Executor Macintosh Applications (Ardi)
- DOS emulation



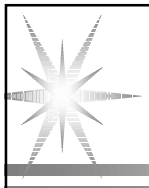
Desktop Usage (Cont.)

- SCO/Interactive emulation
- General Business
  - Pick
- Accounting Packages
  - AccountFlex
- Financial
  - BB tool - stock portfolio charting, analysis tool



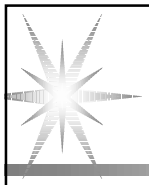
Desktop Usage (Cont.)

- Database linking software (ODBC)
  - OpenLink
- GNUstep
- Netscape, other browsers
- KDE/Gnome



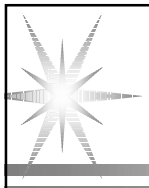
Mathematics

- Maple V - Symbolic Algebraic Manipulation
- Mathematica
- Matlab and Simulink - modeling and simulation
- REDUCE - Symbolic manipulation of formulae



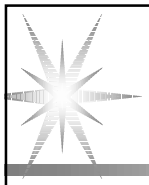
Data Visualization

- Aladdin Ghostscript
- IDL (data analysis, visualization)
- MRJ Symbolic OCR - for Japanese Lang.
- SISCAD-P 1.3-3
- TecPlot
- XVScan - scanning software - HP scanners
- Visual Numerics (PVWAVE)



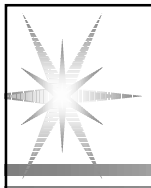
Databases

- Postgres95
- Empress
- Flagship
- JustLogic
- DBIX (Halcyon Software)
- SOLID (Solid Information Technology, Ltd)
- /rdb - Revolutionary Software



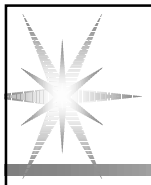
Databases (Cont.)

- D-ISAM
- ESQLFlex
- POET
- Yard SQL
- Interbase
- Informix
- CA Ingres
- Oracle



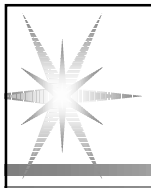
Software Development

- gcc, g++
- ICC11 - “C” compiler for HC11 Microcontr
- Eiffel (OO technology)
- Fortran (Absoft, Microway)
- COBOL (AccuCobol)
- Editors (emacs, vi, etc.)
- Editors: (CRiSP, Visual SlickEdit, SEDIT, ibgsXaed)



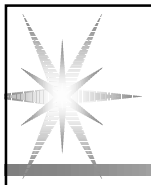
Software Development (Cont.)

- CONZEPT - Software Development Sys.
- Amzi! Prolog and Logic Server
- Basmark QuickBasic
- Clickables - CGI executables
- CODINE Job Management System
- DIOSS - High-Level C-language API to RPC based daemon



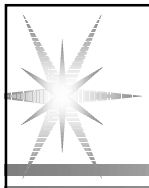
Software Development (Cont.)

- Discussion - C++ CGI with back end DB
- Dynace - 3GL extender of “C”for OO
- Finesse - OSF/Motif GUI for shell scripts
- Gen/X - Realtime X GUI/Application Devel
- INSURE++ - Automatic Runtime Debugger
- INTERACTER - Interface and graphics subroutine library for Fortran



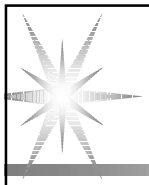
Software Development (Cont.)

- Metacard - Hypermedia/Rapid App Devel
- Mjolner BETA System - OO Software Dev.
- Smalltalk/X Language System
- tgdb - graphical user interface for gdb
- BXwidgets - Supplementary Widget Set
- Bxwidgets/DB - Widgets for DB access



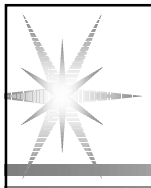
Vertical Applications

- Turn-key systems
- Second and Third Tier of Three-Tier client/server
- Point-Of-Sale Terminals
- Kiosks
- Web Servers/Firewalls/ftp sites
- Nameservers, File Servers, Print Servers



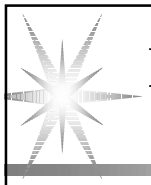
And Others…..

- See Linux Commercial HowTo maintained by Martin Michlmayr (tbm@sypher.com)



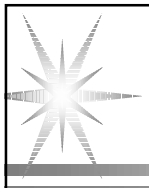
All of Those were Commercial

- There are thousands more which are freeware/shareware
- There are thousands more that run under one of the emulations.
- There will be thousands that run under Java



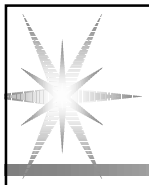
Major Objections: Its too hard to manage.

- Too Many Ongoing Revisions: Too buggy
- Unprofessional (Graduate Student Code)
- Requires a GURU (Vs Windows or WinNT managed by “anyone”)
- Poor Features: management tools? High availability?



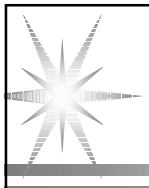
Too Buggy and Unprofessional

- Professional programmers have coded and reviewed most of it
- Open Development allows for testing of each change by thousands of users
- You are seeing the development cycle which is normally hidden
  - WNT V4.0 - "Build 1381" more or less buggy?



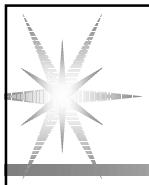
Requires a Guru

- Modern-day Linux distributions easy to install
  - typically one or two floppies and a CD-ROM
  - typically can be installed/updated over Internet
- Modern-day Linux distributions have graphical system management tools
- Linux can be bought pre-installed



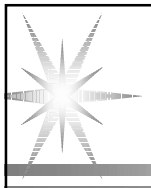
The Microsoft Illusion

- People buy MS systems pre-installed
  - hardware issues “fixed” by VAR
  - VAR works from list of “pre-qualified hardware”
  - BUT try to upgrade it, or even add a printer
- Linux systems are (in my experience) better



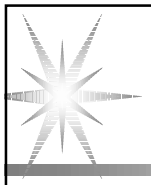
Poor Management Tools

- Desktop Tools Available
  - Caldera Desktop
  - Common Desktop Environment (CDE)
  - “Look and Feel” of FVWM95
- Graphical System Management Tools exist from distribution distributors
- “Clustering” Tools becoming available



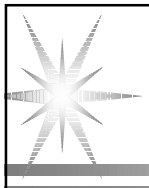
Network Management

- Galacticomm BBS
- NetEye - SNMP based Network Management System
- Venus - Distributed administration tool for UNIX workstations
- VU- BBS - Visually oriented BBS system
- FlexLM - Floating License Management
- LSF - Load Sharing Facility



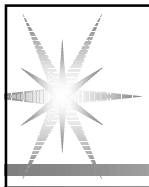
Network Management (Cont.)

- And again, these are commercial…
- ….more in the freely distributable space…..



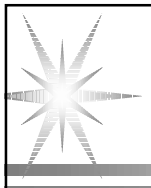
Major Objections: Not Mainstream

- Unsupported (Who ya gonna call?)
- Only runs on PCs
- No Scalability (Processors beyond 2)
- Everyone is Going with NT Servers
- Risky



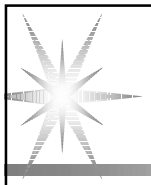
Who ya gonna call?…..

- Most distributions offer support
  - telephone
  - e-mail
  - fax
  - mailing lists and archives



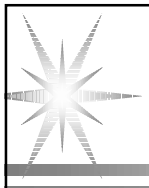
Who ya gonna call? (Cont.)…..

- Various large vendors investigating support
  - Some have announced limited support:
    - HP
    - Sun
- Independent support specialists springing up
  - Linux Care
  - (see Linux Commercial-HOWTO and Linux Journal)



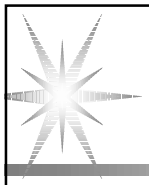
Who ya gonna call?(Cont.)….

- Large body of technical papers and HOWTOs by Linux Documentation Project
- Large number of Linux books on Networking, Systems Administration, Device Driver writing, etc.
- Large number of newsgroups
- Large number of college students who are learning Linux now…...



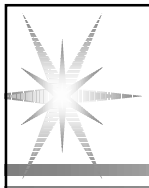
Yeah, but……

- During “Ping” issue, fix to Linux was on net Three ***hours*** after problem was diagnosed
- Certain “commercial” systems did not have a fix out two ***weeks*** after the problem was diagnosed
- InfoWeek’s Award for Support - 1998



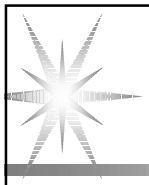
Only Runs on PCs

- Originally, but ran well on 386 with small memory and disk
- Now runs on Alpha, SPARC (with full distributions available on CD-ROM)
- Proceeding with 68K, MIPS, PowerPC, HP-PA
- MkLinux available from Apple/PrimeTime



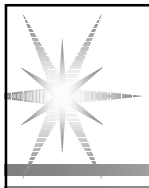
Does Not Scale Well Past Two Processors

- Originally this was true
- Newest kernel releases scale much better up to eight
- How well does WNT scale?



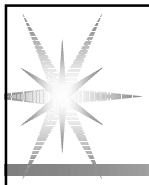
Everyone going to WNT servers

- Everyone is *looking at* WNT servers
  - Some are sorry they did
- UNIX servers selling more than ever before
- Linux one of the most-used systems
- Linux definitely one of the fastest-growing
  - Bob Young's "Sizing the Linux market"
  - IDC reports (212% growth in Linux Servers)



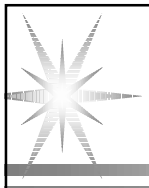
Its Risky

- Try Linux in targeted, non-critical, low-investment application space
  - Name server
  - File Server/Print Server
  - Webserver/ftp/firewall
- Try it in another, and another



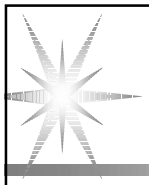
Its ***Still*** Risky

- Then stick with your (name a defunct operating system, computer company or hardware platform……say Intel 286)



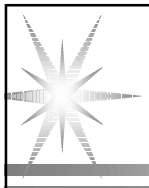
Financials

- Typical Example:
  - WNT system - $199. for workstation OS, but $2K to make it useful (compilers, programs)
  - WNT system - $600. for server package, but $4K to get it “useful”
  - Commercial UNIX - $500-1200 for workstation runtime, $3000-$$$ for server software
- Can you even ***GET*** the source?



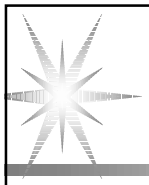
Linux

- The most expensive Linux package I have seen was under $100.
  - e-mail, editors, applications
  - Web Server, browser
  - Compilers, debuggers
  - “Internet Ready”
- How many workstations, POS terminals, Kiosks, webservers, firewalls are you going to need?



Summary

- You should try Linux in your environment
  - It may not fit every need
  - It may fit a lot of needs
- Compare how much the alternative answer would cost
- Write up your application/answer and publish it in a magazine



Questions and Answers

Go with the source, Luke.